CLAIMS

WE CLAIM:

1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 2-3, 5, 27-28, and 30, the translated protein coding portion thereof, the mature protein coding portion thereof, the extracellular portion thereof, or the active domain thereof.

2. An isolated polynucleotide encoding a polypeptide with biological activity, which polynucleotide hybridizes to the complement of a polynucleotide of claim 1 under stringent hybridization conditions.

3. An isolated polynucleotide encoding a polypeptide with biological activity, said polynucleotide having greater than about 90% sequence identity with the polynucleotide of claim 1.

4. The polynucleotide of claim 1 which is a DNA sequence.

5. An isolated polynucleotide which comprises the complement of the polynucleotide of claim 1.

6. A vector comprising the polynucleotide of claim 1.

7. An expression vector comprising the polynucleotide of claim 1.

8. A host cell genetically engineered to express the polynucleotide of claim 1.

9. The host cell of claim 8 wherein the polynucleotide is in operative association with a regulatory sequence that controls expression of the polynucleotide in the host cell.

10. An isolated polypeptide comprising an amino acid sequence which is at least 80% identical to the amino acid sequence selected from the group consisting of SEQ ID NO: 4, 6-22, 25, 29, 31-39, and 40, the translated protein coding portion thereof, the mature protein coding portion thereof, the extracellular portion thereof, or the active domain thereof.

11. A composition comprising the polypeptide of claim 10 and a carrier.

12. A polypeptide, having alpha-2-macroglobulin-like activity, comprising at least twenty consecutive amino acids from the polypeptide sequences selected from the group consisting of SEQ ID NO: 4, 6-22, 25, 29, 31-39, and 40.

13. The polypeptide of claim 12, comprising at least ten consecutive amino acids from the polypeptide sequences selected from the group consisting of SEQ ID NO: 4, 6-22, 25, 29, 31-39, and 40.

14. A polynucleotide encoding a polypeptide according to claim 12.

15. A polynucleotide encoding a polypeptide according to claim 13.

16. A polynucleotide encoding a polypeptide according to claim 10.

17. An antibody specific for the polypeptide of claim 10.

18. A method for detecting the polynucleotide of claim 1 in a sample, comprising:

a) contacting the sample with a compound that binds to and forms a complex with the polynucleotide of claim 1 for a period sufficient to form the complex; and

b) detecting the complex, so that if a complex is detected, the polynucleotide of claim 1 is detected.

19. A method for detecting the polynucleotide of claim 1 in a sample, comprising:

a) contacting the sample under stringent hybridization conditions with nucleic acid primers that anneal to the polynucleotide of claim 1 under such conditions;

b) amplifying a product comprising at least a portion of the polynucleotide of claim 1; and

c) detecting said product and thereby the polynucleotide of claim 1 in the sample.

20. The method of claim 19, wherein the polynucleotide comprises an RNA molecule and the method further comprises reverse transcribing an annealed RNA molecule into a cDNA polynucleotide.

21. A method for detecting the polypeptide of claim 10 in a sample, comprising:

a) contacting the sample with a compound that binds to and forms a complex with the polypeptide under conditions and for a period sufficient to form the complex; and

b) detecting formation of the complex, so that if a complex formation is detected, the polypeptide of claim 10 is detected.

22. A method for identifying a compound that binds to the polypeptide of claim 10, comprising:

a) contacting the compound with the polypeptide of claim 10 under conditions and for a time sufficient to form a polypeptide/compound complex; and

b) detecting the complex, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 10 is identified.

23. A method for identifying a compound that binds to the polypeptide of claim 10, comprising:

a) contacting the compound with the polypeptide of claim 10, in a cell, for a time sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a reporter gene sequence in the cell; and

b) detecting the complex by detecting reporter gene sequence expression, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 10 is identified.

24. A method of producing an alpha-2-macroglobulin-like polypeptide, comprising,

a) culturing the host cell of claim 8 under conditions sufficient to express the polypeptide in said cell; and

b) isolating the polypeptide from the cell culture or cells of step (a).

25. A kit comprising the polypeptide of claim 10.

26. A nucleic acid array comprising the polynucleotide of claim 1 or a unique segment of the polynucleotide of claim 1 attached to a surface.

27. The array of claim 26, wherein the array detects full-matches to the polynucleotide or a unique segment of the polynucleotide of claim 1.

28. The array of claim 26, wherein the array detects mismatches to the polynucleotide or a unique segment of the polynucleotide of claim 1.

29. A method of treatment of a subject in need of enhanced activity or expression of alpha-2-macroglobulin-like polypeptide of claim 10 comprising administering to the subject a composition selected from the group consisting of:

(a) a therapeutic amount of a agonist of said polypeptide;

(b) a therapeutic amount of the polypeptide; and

(c) a therapeutic amount of a polynucleotide encoding the polypeptide in a form and under conditions such that the polypeptide is produced,

and a pharmaceutically acceptable carrier.

30. A method of treatment of a subject having need to inhibit activity or expression of alpha-2-macroglobulin-like polypeptide of claim 10 comprising administering to the subject a composition selected from the group consisting of:

(a) a therapeutic amount of an antagonist to said polypeptide;

(b) a therapeutic amount of a polynucleotide that inhibits the expression of the nucleotide sequence encoding said polypeptide; and

(c) a therapeutic amount of a polypeptide that competes with the alpha-2-macroglobulin-like polypeptide for its ligand

and a pharmaceutically acceptable carrier.